

SCHOOL OF TROPICAL MEDICINE
OF THE
UNIVERSITY OF PORTO RICO
UNDER THE AUSPICES OF
COLUMBIA UNIVERSITY

ANNOUNCEMENT

1926-1927



SAN JUAN, PORTO RICO
JUNE, 1926

PUBLISHED BY
UNIVERSITY OF PORTO RICO
AND
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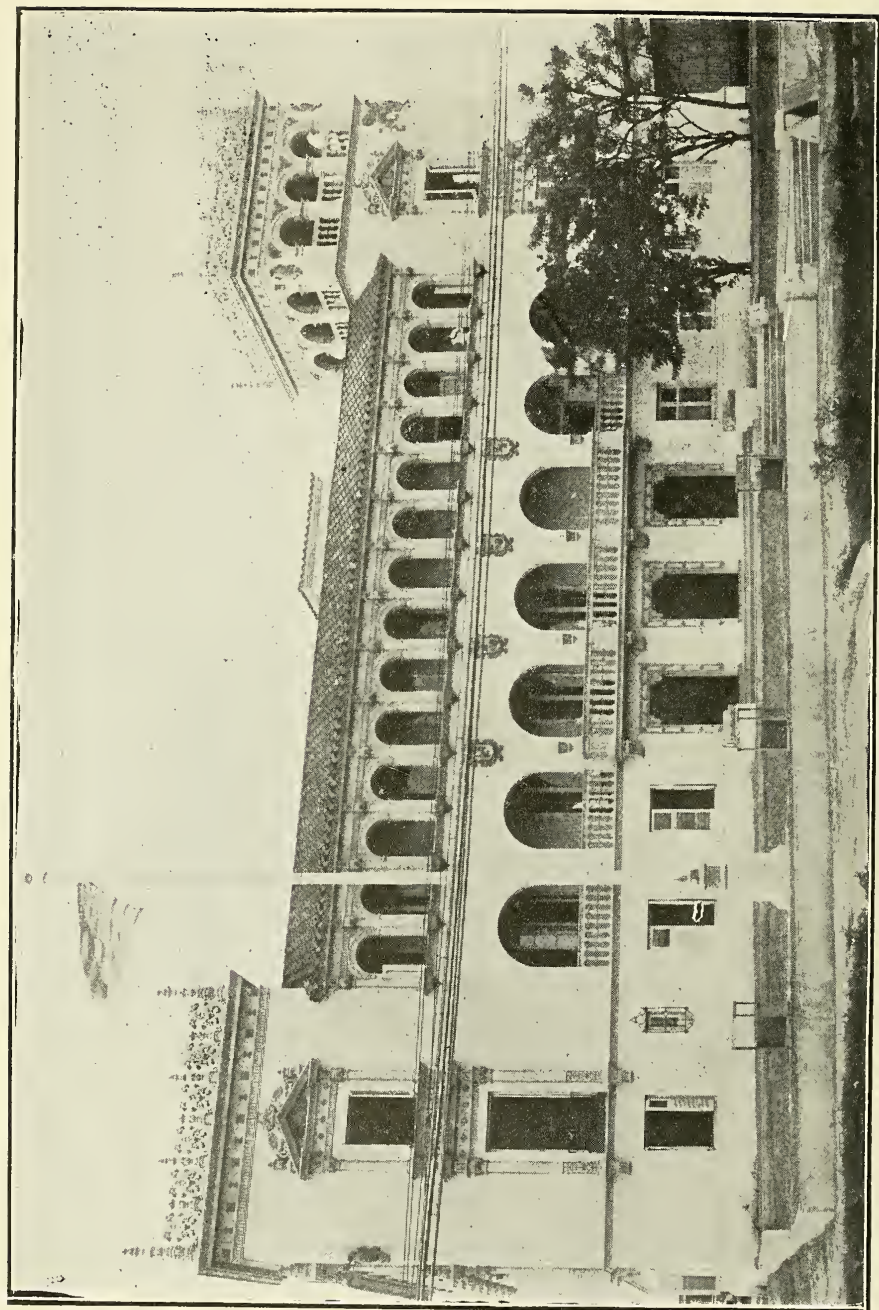
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School of Tropical Medicine


SCHOOL OF TROPICAL MEDICINE

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FACULTY

ADMINISTRATION

- THOMAS E. BENNER ----- *Chancellor of the University of Porto Rico*
 A. B. 1914, A. M. 1916, Ed. M. 1923, Ed. D, 1924, Harvard
- NICHOLAS MURRAY BUTLER ----- *President of Columbia University*
 A. M. 1883, Ph. D. 1884, Columbia; LL. D. 1907, Cambridge; D. Litt. 1905, Oxford;
 Hon. D. 1921, Paris
- ROBERT A. LAMBERT ----- *Director of the School of Tropical Medicine*
 A. M. 1903, Howard Col.; M. D. 1907, Tulane

PROFESSORS

- DONALD H. COOK ----- *Associate Professor of Chemistry*
 B. S. 1917, A. M. 1922, Ph. D. 1923, Columbia
- FRANCISCO J. HERNÁNDEZ ----- *Professor of Clinical Bacteriology*
 M. D. 1904, Pennsylvania
- WILLIAM A. HOFFMANN ----- *Assistant Professor of Parasitology*
 B. S. 1917, Cornell; D. Sc. 1924, Johns Hopkins
- PEDRO GUTIÉRREZ IGARAVÍDEZ ----- *Clinical Professor of Tropical Medicine*
 M. D. 1895, Seville
- ROBERT A. LAMBERT ----- *Professor of Pathology*
 A. M. 1903, Howard Col.; M. D. 1907, Tulane
- ISAAC GONZÁLEZ MARTÍNEZ ----- *Clinical Professor of Tropical Medicine*
 M. D. 1897, Barcelona
- PEDRO N. ORTIZ ----- *Professor of Hygiene and Transmissible Diseases*
 M. D. 1919, Boston
- ¹ EARLE B. PHELPS ----- *Professor of Sanitary Science, Institute of Public Health, Columbia University*
 B. S. 1899, Mass. I. Tech.
- ARTURO TORREGROSA ----- *Clinical Professor of Tropical Medicine*
 M. D. 1906, Michigan

INSTRUCTORS

- ANTONIO ARBONA ----- *Instructor in Malaria and Malaria Prevention*
 M. D. 1912, New York
- JUAN G. BAJANDAS ----- *Instructor in Rural Sanitation*
 M. D. 1904, Maryland

¹ Visiting professor, fall of 1926.

- ALICE M. B. BURKE ----- *Instructor in Clinical Pathology*
M. D. 1918, Buffalo
- GARRY N. BURKE ----- *Instructor in Tropical Medicine and Surgery*
M. D. 1918, Buffalo
- ARTURO L. CARRIÓN ----- *Instructor in Plague Prevention*
M. D. 1919, Havana
- OSCAR COSTA MANDRY ----- *Instructor in Pathology and Bacteriology*
M. D. 1921, Maryland
- * WALTER C. EARLE ----- *Instructor in Malaria and Malaria Prevention*
M. D. 1920, Rush
- ANTONIO FERNÓS ISEÑ ----- *Instructor in Hygiene*
M. D. 1915, Maryland
- W. R. GALBREATH ----- *Instructor in Tropical Medicine and Surgery*
M. D. 1916, Nebraska
- MANUEL GARRIDO MORALES ----- *Instructor in Epidemiology*
M. D. 1924, Coll. Va.
- LUIS G. HERNÁNDEZ ----- *Instructor in Chemistry*
Phar. Chem. 1914, Michigan
- * GEORGE C. PAYNE ----- *Instructor in Rural Sanitation*
M. D. 1912, Cornell; D. P. H. 1923, Johns Hopkins
- GUSTAVO RAMÍREZ DE ARELLANO ----- *Instructor in Public-Health Engineering*
C. E. 1915, New York
- MARTÍN O. DE LA ROSA ----- *Instructor in Transmissible Diseases*
A. B., Inst. de P. R.; M. D., Seville

RESIDENT LECTURERS FOR 1926-27

- O. W. BARRETT ----- *Lecturer on Tropical Food Plants*
Agricultural Advisor to the Insular Government
- JAIME BAGUÉ ----- *Lecturer on the Diseases of Domestic Animals of Porto Rico*
Assistant Commissioner of Agriculture of the Insular Government
- MELVILLE T. COOK, Ph. D. ----- *Lecturer on Tropical Botany and Plant Pathology*
Plant Pathologist and Botanist, Experiment Station, Insular Department of Agriculture
- O. L. FASSIG, Ph. D. ----- *Lecturer on Tropical Climatology*
Director of West Indies and Caribbean Service, U. S. Weather Bureau
- RAFAEL LÓPEZ NUSSA, M. D. ----- *Lecturer on Tropical Surgery*
Director of St. Luke's Hospital, Ponce, P. R.
- MANUEL QUEVEDO BÁEZ, M. D. ----- *Lecturer on the History of Medicine in Porto Rico*

* By courtesy of the International Health Board of the Rockefeller Foundation.

VISITING LECTURERS FOR 1926-27

ALDO CASTELLANI, C. M. G., M. D., F. R. C. P.

Professor of Tropical Medicine, Tulane University; Lecturer in the London School of Tropical Hygiene and Medicine

WILLIAM T. COUNCILMAN, A. M., M. D.

Professor of Pathology (Emeritus), Harvard University

JUAN ITURBE, M. D.

Faculty of Medicine, Caracas

ANDREW WATSON SELLARDS, M. D.

Assistant Professor of Tropical Medicine, Harvard University

CONSULTANTS

CARLOS E. CHARDÓN -----*Consulting Mycologist*

Commissioner of Agriculture of the Insular Government

JORGE DEL TORO, M. D.-----*Consulting Surgeon*

COLLABORATORS

BAILEY K. ASHFORD, Col. U. S. A.*--*Tropical Medicine and Mycology*

* Col. Ashford is debarred by the Revised Statutes of the United States from accepting any official position in the University of Porto Rico.

HISTORICAL NOTE

The School of Tropical Medicine is an evolution of the former Institute of Tropical Medicine and Hygiene, which in turn had its origin in the Porto Rico Anemia Commission. This Commission was organized in 1904 to combat the widespread anemia which through the studies of Col. Bailey K. Ashford (then a Lieutenant in the U. S. Army) had been shown to be due to hookworm infection. In the seven years, 1904 to 1911, which the commission functioned, more than 300,000 people were treated, and important researches in the prophylaxis, symptomatology, and pathology of the infection were carried out. This was the first campaign against hookworm disease in the western hemisphere, and its effects were far-reaching.

The members of the Commission were:

Dr. Pedro Gutiérrez Igaravidez;
Dr. Walter W. King, U. S. Public Health Service;
Dr. Isaac González Martínez; and
Dr. Bailey K. Ashford, collaborator, being debarred by U. S. Army Statutes from accepting any official position.

In 1911 an "Anemia Service" was created as a bureau in the newly organized Sanitation Service, to take over the work of the Anemia Commission. In the following year, the bureau ended its existence, with the creation by act of the Legislative Assembly, of the "Institute of Tropical Medicine and Hygiene", which was made a unit of the Sanitation Service.

The members of the Institute were the same who had constituted the Anemia Commission, with Dr. Pedro Gutiérrez as Director. For varying periods Dr. Wm. F. Lippitt, Dr. Francisco J. Hernández, Dr. Gutiérrez Ortiz and Dr. Carl Michel were members, and from 1917 to 1923 Dr. Arturo Torregrosa was the Secretary.

The first official reference to the foundation in Porto Rico of a School of Tropical Medicine was in a letter to Governor Winthrop, dated September 5, 1906, from Dr. Ashford, one of the members of the Anemia Commission. But the suggestion was not acted upon, and there were no further developments until 1923, when Mr. Antonio R. Barceló, President of the Porto Rican Senate, revived the question at a dinner at the University Club given on the initiative of Drs. Goodman and López Antongiorgi in honor of the legislative

commission from Porto Rico which was on its way to Washington. Mr. Barceló reviewed the evolution of Porto Rico since the change of sovereignty and suggested the great value of Pan-American university contacts for bringing about closer cultural relations between the people of North and South America. He proposed the cooperation of Columbia University with the University of Porto Rico in such an undertaking, which might be initiated by the establishment in Porto Rico of a School of Tropical Medicine. He gave an account of the Institute of Tropical Medicine, and its epoch-making work on uncinariasis, and suggested that on the foundation laid by the Institute might be developed such a school. Mr. Barceló's proposals were seconded by Drs. Goodman and López Antongiorgi, and during the next few days conferences were arranged between Mr. Barceló and officials of Columbia University.

Mr Barceló on his return to Porto Rico presented his ideas to Governor Towner who heartily endorsed them, and after several exchanges of cablegrams with Drs. Goodman and López Antongiorgi, Mr. Barceló introduced in the Legislature of Porto Rico, Act No. 3, 1923, covering the plan that had been formulated.

Following the passage of this Act Columbia University appointed a commission to visit Porto Rico with the object of determining the feasibility of cooperating with the University of Porto Rico in the organization of a School of Tropical Medicine in accordance with the plan proposed.

This commission was composed of:

Dr. J. A. López Antongiorgi;
Dr. A. L. Goodman;
Dr. Carl Vogel;
Mr. Edgar J. Moeller.

During its visit, the committee held conferences with the Governor, the President of the Senate, the Commissioner of Health, the Members of the Institute, and representative citizens, and on its return to the United States made a report to the University endorsing the plan.

Shortly afterwards a special commission from the Legislative Assembly, consisting of Governor Towner; Don Antonio Barceló, President of the Senate; Don Miguel Guerra Mondragón, Speaker of the House; Dr. Pedro N. Ortiz, Commissioner of Health; Dr. Octavio Jordán and Don José Tous Soto, members of the Porto Rican Senate; and Don Félix Córdova Dávila, Resident Commissioner, while on an official visit to Washington, conferred with the author-

ities of Columbia University in New York, respecting the proposed plan of cooperation.

A little later Prof. A. M. Pappenheimer, of the Department of Pathology of Columbia University, was sent to Porto Rico to make a technical study of conditions and to draw up a plan of organization for the school. His excellent detailed report served as the basis of the plan of organization that was later worked out.

Under the leadership of Mr. Barceló, and upon the recommendation of Governor Towner, the Legislative Assembly on June 23, 1924, passed a Joint Resolution, creating a "School of Tropical Medicine of the University of Porto Rico under the auspices of Columbia University", and providing the sum of \$100,000 out of the University's building fund, for the construction of a building for offices and laboratories. By the same resolution the Institute of Tropical Medicine and Hygiene went out of existence, its properties passing to the School.

A Provisional Board consisting of the Commissioner of Health, Dr. Pedro N. Ortiz, the Commissioner of the Interior, Mr. Guillermo Esteves, and the Chancellor of the University of Porto Rico, Dr. Thomas E. Benner, was designated to take charge of the School until a permanent organization could be effected. Construction of the building was begun in January 1925.

Through an Act of the Legislative Assembly, approved by the Governor July 21, 1925, authorizing a reorganization of the University of Porto Rico, a permanent Special Board of Trustees was provided for the School of Tropical Medicine, to succeed the Provisional Board.

The Board consists of five members, three chosen by the Board of Trustees of the University of Porto Rico from its own members, and two, nominated by Columbia University.

In November 1925, Dean Wm. Darraeh, of the College of Physicians and Surgeons of Columbia University, visited Porto Rico and concluded with the Special Board of Trustees an agreement which forms the basis of cooperation between the University of Porto Rico and Columbia University in the operation of the School.

Through this agreement the authority to determine the educational policy of the School of Tropical Medicine and to make nominations to its faculty was delegated to Columbia University, subject to the approval of the Special Board of Trustees of the School.

Upon the nomination of Columbia University, Dr. Robert A. Lambert, Professor of Pathology in the Faculty of Medicine, São Paulo, Brazil, was appointed Director of the School to enter upon

his duties upon completion of his service in South America under the Rockefeller Foundation. Dr. D. H. Cook, Assistant Prof. of Chemistry in the University of Montana, was appointed Associate Professor of Chemistry. Pending the completion of the new laboratories he began a survey on the food plants of Porto Rico making the laboratory studies in the Department of Chemistry of Columbia University.

The building was completed in May 1926, and all equipment was thereupon transferred to the new structure from the historic "Palacio Rojo", which had served as the quarters of the Institute during its eleven years of existence.

With the occupation of the new building and the organization of a teaching staff, the first chapter in the history of the School was completed.

GENERAL STATEMENT

The primary aim of the School of Tropical Medicine is to give the opportunity for the study in a tropical environment of that large ill-defined group of disorders known as tropical diseases, and at the same time to observe the influence of exotic conditions on diseases in general.

This is the first school of its kind to be established in the Americas, though the need has long been recognized and partially met through the organization of departments of tropical medicine in several of the leading medical schools of North and South America.

To the founders of the School, Porto Rico seemed to offer special advantages as the site of such an institution.

(1) Being a part of the United States, the Island has unusually close cultural and commercial relations with other parts of our country, and with Canada. The distance to New York is only thirteen hundred eighty miles, and less than four days by steamer. On the other hand, ties of race and language bind Porto Rico to the peoples of Central and South America, and thus make the Island a logical meeting place for English-, Spanish- and Portugese-speaking students and investigators.

(2) The climate, though tropical, is so tempered by the prevailing sea winds as to make it possible to pursue scientific investigations throughout the year, even in the warmer coastal zone. The high mountainous interior, quickly reached by automobile, make an invigorating change easily obtainable at any season.

(3) Porto Rico has a strongly centralized health department, which by means of an excellent road system, comprising some sixteen

hundred miles of pikes of asphalt and macadam, maintains a close contact with every section of the Island and its 1,400,000 people. The relation between the School and the Insular Department of Health make possible cooperative studies that would be difficult in a less well-developed section of the tropics.

The writer knows of no other place in the American Tropics, except possibly the city of Río de Janeiro, where a similar number of people can be so easily reached from a single station.

To this advantage of accessibility is added that of a thoroughly unified public-health service. In Porto Rico there are no municipal or district departments of health, this service being everywhere a function of the Insular Government.

The density of population, 381 per square mile, and unfavorable economic conditions, accentuate the medical problems of the Island.

Certain tropical infections, notably malaria and uncinariasis, are very widely distributed, whereas others, such as schistosomiasis and yaws, are found only in particular localities. Nutritional disorders constitute one of the most serious problems.

BUILDING

A three-story building, with frontage of 114 feet and depth of 60 feet, and containing administrative offices, library, assembly room and laboratories, has just been completed. The character of the exterior is shown in the accompanying photograph. The building is conveniently situated on the main boulevard connecting the old with the new city; it stands on one side of the small park which surrounds the new capitol, while the rear of the building overlooks the sea, less than three hundred feet away.

LABORATORIES

There are in the new building of the School well-equipped laboratories of bacteriology, chemistry, mycology, pathology, and parasitology, each capable of accommodating 10-15 students and investigators.

Quarters for animals are provided in a one-story structure to the rear of the laboratory building.

The Plague-Prevention Laboratory of the Department of Health will be available for instruction in that subject, and the Insular Leper Hospital, just completed, contains laboratories for routine examinations and research. For the field work temporary laboratories will be provided.

LIBRARY

The library occupies a large well-lighted room on the second floor, of the new building. Seventy-five journals covering the various branches of tropical medicine and related fields are received by subscription, in addition to a number of public-health reports, society proceedings, and institutional publications.

Complete sets of some of the more important journals have been obtained, and other sets are being completed as rapidly as possible.

There are five hundred volumes of text books and works of reference, and about three thousand pamphlets.

CLINICAL FACILITIES

Plans have been drawn for a small hospital containing forty beds and a dispensary, to be erected by the Insular Government on the plot of ground which lies between the laboratory building of the School of Tropical Medicine and the sea. The hospital will be operated by the Department of Health, in close cooperation with the School, with the object of providing clinical facilities for teaching and investigation.

It is expected that the hospital will be completed before the opening of the session of 1927-28.

During 1926-27, clinical instruction will be given chiefly in the following hospitals:

Quarantine Hospital for transmissible diseases, 40 beds, 5 minutes by automobile from the School of Tropical Medicine.

Leper Hospital, 50 beds, 30 minutes distant.

Presbyterian Hospital, 80 beds, 10 minutes distant.

The Municipal Hospital of San Juan with 90 beds, and the Insular Tuberculosis Sanatorium, 200 beds, are also available for teaching. The former is ten minutes, the latter thirty minutes from the School.

A dispensary service is provided in the School of Tropical Medicine for cases referred by physicians or institutions for special examination or study.

Through the cooperation of the Department of Health a small hospital building in Utuado, a town pleasantly situated up in the hills some three hours by automobile from San Juan, is available at any time for field investigations.

FIELD WORK

Field work may be carried on in any part of the Island at any time by courtesy of the Department of Health. During the session of 1926-27 classes will spend periods of 1-2 weeks in one of the districts (30 minutes from San Juan) in which intensive campaigns against uncinariasis are being carried on, and a similar period in another district (an hour and a half from San Juan) where a demonstration of malaria-prevention measures has been in progress for more than a year. In both districts the work is being carried on in cooperation with the International Health Board of the Rockefeller Foundation, whose health officers, like those of the Department of Health will serve as instructors.

ADMISSION REQUIREMENTS

The courses offered are planned primarily for graduates in medicine, who wish special training in tropical medicine or hygiene. The decree of Doctor of Medicine from an approved medical school, or satisfactory evidence of equivalent preparation for the course which the applicant desires to take will be required in each case, in addition to such special training as may be judged necessary.

Women will be admitted on the same terms as men.

NUMBER OF STUDENTS LIMITED

Applicants for laboratory work will not be admitted beyond the capacity of the laboratories, several of which will accommodate not more than ten workers.

The field instruction will also be given only to small groups.

RESEARCH

Qualified investigators wishing either to pursue independent research or to collaborate with the local staff on problems of mutual interest, will be welcomed. Since the laboratory space is limited, arrangements should be made well in advance. Special attention will be given to workers representing teaching or research institutions. Materials needed by research workers will be supplied, as far as may be practicable, by the School, at cost price.

Through the cooperation of the Department of Health investigations may be carried on in any of its special hospitals or field stations, as well as in the laboratories of the School.

CERTIFICATES AND CREDITS

A certified statement of the satisfactory completion of a course will be issued on request.

Graduates in medicine may obtain a *Certificate in Tropical Medicine* by at least one year's work in residence, involving the completion of an approved course of study, representing a minimum of 30 points,* ten of which must involve research work in the preparation of a thesis. A special examination, in addition to the usual course examinations, will be required for the Certificate.

Credits for courses in the School will be accepted by related departments of Columbia University and the University of Porto Rico toward higher degrees (M. S., Ph. D.) upon the approval of the head of the department in which the candidate is registered.

FEES

The following fees will be charged:

Registration (for all students) -----	\$5. 00
Tuition per point * -----	10. 00
Examination for Certificate -----	10. 00
The minimum charge for tuition will be \$20.00, exclusive of the registration fee.	

A special fee, the amount varying with the character of work and the time, will be charged for the use of laboratories. Exception may be made in the case of institutions cooperating in researches of special interest to the School of Tropical Medicine.

A deposit for breakage, damage or loss will be required of students entrusted with expensive apparatus.

All fees are payable in advance, and no certificate of attendance will be issued until all indebtedness to the School has been liquidated.

The registration and examination fees are not subject to rebate. Upon written notice of withdrawal from the School before the completion of a course, a student may obtain a pro-rata return of the tuition fee.

MICROSCOPES

The School has a limited number of new microscopes for use in the laboratories, and a few old microscopes that may, upon the payment of a small fee, be taken from the building. Students are ad-

* A point represents one hour of lecture, conference, or recitation weekly for one term (semestre) or the equivalent. Two hours of field or laboratory work are reckoned an equivalent of one hour of lecture.

vised, however, to bring their own microscopes, since the School can not guarantee to supply them.

LIVING EXPENSES

Living expenses in San Juan are comparable to those in cities of the United States of similar size and situation.

Board and lodging in private homes or boarding houses may be obtained for fifteen to twenty-five dollars a week. In the best hotels the rates are proportionately higher.

Students or investigators, bringing their families will probably find it more economical, as well as more comfortable to rent a house or an apartment, if they intend to remain longer than three months. Servants, some of whom speak English, are obtainable at \$10-20 a month.

On excursions into the country arranged by the School, students will be expected to pay the pro-rata cost of transportation, food, lodging and service, and to supply themselves with any necessary camping equipment.

COURSES OF STUDY

During the session of 1926-27 courses will be offered in various subjects as indicated in the outline given below. None of the courses extends over more than one term, and in some cases the work is covered by intensive study through a shorter period. The intensive method is followed especially in the field work.

Students may either devote their entire time to one subject, occupying themselves in research in addition to the regular courses, or they may elect a program of study including several different subjects.

Recognizing the fact that individual interests and needs vary widely, it will be the policy of the School to allow as much freedom as possible in the choice of studies. However, adequate preparation will be insisted upon in the case of each course, and a correlation of the studies undertaken will be strongly advised.

Physicians or other qualified persons wishing to devote only a part of their time to study may register for single courses.

Lectures in subjects of general interest will be open to all students as well as to the local physicians.

From time to time a series of courses planned particularly for busy physicians of the Island who can take only two or three weeks from their practice, will be offered. Such courses will be given as far as possible at times most convenient for those who are interested,

and at a season of the year when regular term courses are not in progress. Special announcement of these courses will be issued several months in advance.

LANGUAGE

In conformity with the bilingual character of the Island, both English and Spanish will be used in teaching. Prospective students who speak only the one or the other language are therefore advised to include language study in their program.

A knowledge of Spanish will be of great practical value in the clinical and field work particularly.

Courses in both English and Spanish are offered in the respective departments of the University at Río Piedras, a suburb of San Juan, 30 minutes by omnibus from the School of Tropical Medicine.

GENERAL INFORMATION

The first term begins October 1, 1926, the second February 1, 1927. The session ends May 31, 1927.

Registration for *Scheduled Courses* in either term may be made up to the dates of opening, but it is advisable to make application at least a month in advance.

Application for *special work* in any department of the School may be made at any time.

The laboratories, library and administrative offices will be open throughout the year except possibly for two or three weeks in August for necessary renovation.

Prospective students from the United States are advised that there are two steamship lines giving a regular passenger service between New York and San Juan: the Porto Rico Line, with fast steamers leaving New York every Thursday and arriving at San Juan, the following Monday morning, and the Red "D" Line with steamers leaving New York on Wednesdays, two to three times a month.

The minimum price for first-class passage, one way, on the faster steamers of the Porto Rico Line is \$75, on the Red "D" Line, \$50.

From San Juan to Santo Domingo, to St. Thomas and to Venezuela there are frequent sailings of comfortable passenger vessels.

The round trip to Santo Domingo may be made in three days, and to St. Thomas in three days. The trip from San Juan to La Guayra, the port of Caracas, is made in two days.

There is a regular fortnightly service to Jamaica and Cuba.

LIST OF COURSES

BACTERIOLOGY, MYCOLOGY AND PATHOLOGY

1. Tropical Bacteriology and Mycology:

Laboratory course, correlated with courses in tropical pathology and transmissible diseases.

Prof. Hernández and Dr. Ashford.

First and second terms, 3 points.

2. Tropical Pathology:

Conferences and laboratory exercises, correlated with course 1, and clinical work.

Prof. Lambert and Dr. Costa Mandry.

First and second terms, 3 points.

3. Research in Pathology, Bacteriology and Mycology:

Prof. Lambert, Prof. Hernández, and Dr. Ashford.

CHEMISTRY

1. Food and Nutrition:

Lectures and demonstrations, with special reference to tropical foods.

Prof. Cook and Mr. Barrett.

First term, 3 points.

2. Methods of Food Investigation:

Special emphasis on biological methods for the vitamins.

Lectures and laboratory.

Prof. Cook.

Second term, 3 points.

(May not be given in 1926-27.)

3. Biochemical Methods:

Newer methods of analysis of the blood, urine, and other body fluids.

Mr. Hernández.

First and second terms, 3 points.

4. Research:

Prof. Cook and staff.

MEDICAL ZOOLOGY

1. Parasitology:

Laboratory course including the study of the pathogenic protozoa and parasitic worms of man, commonly found in the tropics, correlated with course in Medical Entomology.

Prof. Hoffmann and Dr.-----.

First or second term, 4 points.

2. Medical Entomology:

Laboratory and field work.

Prof. Hoffmann and Dr.-----

First or second term, 2 points.

3. Research in protozoology, helminthology and entomology with opportunities for field investigations.

Prof. Hoffmann.

PUBLIC HEALTH AND TRANSMISSIBLE DISEASES

1. Public Health Administration:

Lectures followed by inspection of the various bureaus of the Department of Health in San Juan, and visits to stations outside the city.

Prof. Ortiz and Dr. Fernós.

First and second terms, 2 points.

2. Public Health Engineering:

Lectures, conferences, and inspections with particular reference to problems of water supply, water disinfection, sewage disposal, and city milk supplies in the tropics.

Prof. Phelps and Mr. Ramírez de Arellano.

First term, 2 points.

3. Rural Sanitation with Special Reference to Uncinariasis:

Practical work in field and laboratory.

Drs. Payne and Bajandas.

First and second terms, 2 to 4 points.

4. Malaria and Malaria Prevention:

Surveys, field demonstrations of preventive measures, and laboratory exercises including study of mosquitoes.

Drs. Earle and Arbona.

First and second terms, 2 to 4 points.

5. Plague and Plague Prevention:

Lectures, and demonstrations in the Plague Prevention laboratory of the Insular Government.

Prof. Ortiz and Dr. Carrión.

First and second terms, 1 point.

6. Leprosy:

Clinical and laboratory work, in the Insular Leper Hospital.

Prof. Ortiz.

First and second terms, 1 point.

7. Tropical Epidemiology:

Lectures, with demonstrations in the Quarantine Hospital and other institutions of the Department of Health.

Drs. Martín O. de la Rosa and Garrido Morales.

Second term, 2 points.

8. Research:

Prof. Ortiz and staff.

First and second terms.

TROPICAL MEDICINE AND SURGERY

1. Tropical-Medicine Clinics:

Clinical lectures and demonstrations covering the commoner tropical diseases of the country.

Prof. Gutiérrez, Prof. González Martínez, Prof. Torregrosa, Dr. Ashford, and others.

First and second terms, 2 points.

2. Tropical Surgery:

Clinical lectures on surgical conditions in the tropics and the influence of climate on surgical practice.

Dr. Galbreath and Dr. López Nussa.

Second term, 1 point.

3. Bedside Instruction in Tropical Diseases.

Wards of the Presbyterian Hospital.

Dr. Galbreath, Dr. G. Burke, and Hospital Staff.

First and second terms, 2 to 4 points.

4. Dispensary Service:

By special arrangement, at the clinics of the Department of Health and the Presbyterian Hospital.

First and second terms, 2 to 4 points.

For further information apply to

DIRECTOR

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